REMARKS

Applicant appreciates the Examiner's indication that dependent Claim 2 contains allowable subject matter. In response, Applicant has added a new independent claim (Claim 14) that claims similar subject matter to that of dependent Claim 2 and associated independent Claim 1. Basically, the primary difference between new Claim 14 and original Claims 1 and 2 is that the language has been changed to remove the means-plus-function language of Claims 1 and 2. Applicant respectfully submits that new Claim 14 is allowable for at least the same reasons that rendered the subject matter of original Claim 2 allowable, and an indication of such allowability is respectfully requested.

With regard to the drawings, Applicant has added the legend "Prior Art" to Figures 1 and 2 as required by the Examiner. Accordingly, withdrawal of the objection to the drawings is respectfully requested.

Claims 1, 3, 4, and 12 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,790,335 to Sugawara et al. Applicant respectfully traverses this rejection.

Independent Claims 1 and 12 have been amended to clarify that the equalized waveform is converted into a maximum likelihood sequence by carrying out metric calculation based on average values of the equalized waveform in vicinities of a positive signal level, a negative signal level and a zero signal level.

In contrast, as described in column 18 (lines 55-67) of Sugawara et al., the device of this reference carries out the calculation based on average values of the equalized

waveform at only two signal levels (positive and negative amplitude values) in order to compensate for the signal positive/negative asymmetry. However, the Sugawara et al. reference does not disclose carrying out the calculation based on average values of the equalized waveform at a zero signal level in addition to the positive and negative signal levels.

On the other hand, the present invention of independent Claims 1 and 12 converts the equalized waveform into a maximum likelihood sequence by carrying out metric calculation based on average values of the equalized waveform in vicinities of a positive signal level, a negative signal level, and a zero signal level, as shown in Applicant's Figure 4. For this reason, the average value can be obtained for each data pattern, and it can be used as the expected value of the signal in the Viterbi detector, so that it is possible to carry out a more accurate demodulation, as can be seen in Applicant's Figure 9.

Accordingly, as all of the features of independent Claims 1 and 12 are not disclosed in Sugawara et al., Applicant respectfully requests the withdrawal of this §102 rejection of Claims 1 and 12 under Sugawara et al. Claims 3 and 4 both depend, directly or indirectly, from independent Claim 12, and therefore include all of the features of Claim 12, plus additional features. Accordingly, Applicant respectfully requests that the §102(b) rejection of dependent Claims 3 and 4 under Sugawara et al. be withdrawn considering the above remarks directed to independent Claims 1 and 12.
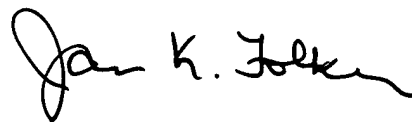
For all of the above reasons, Applicant requests reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference

would aid in the prosecution of the application, or that outstanding issues exist, the Examiner

is invited to contact the undersigned.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By   James K. Folker
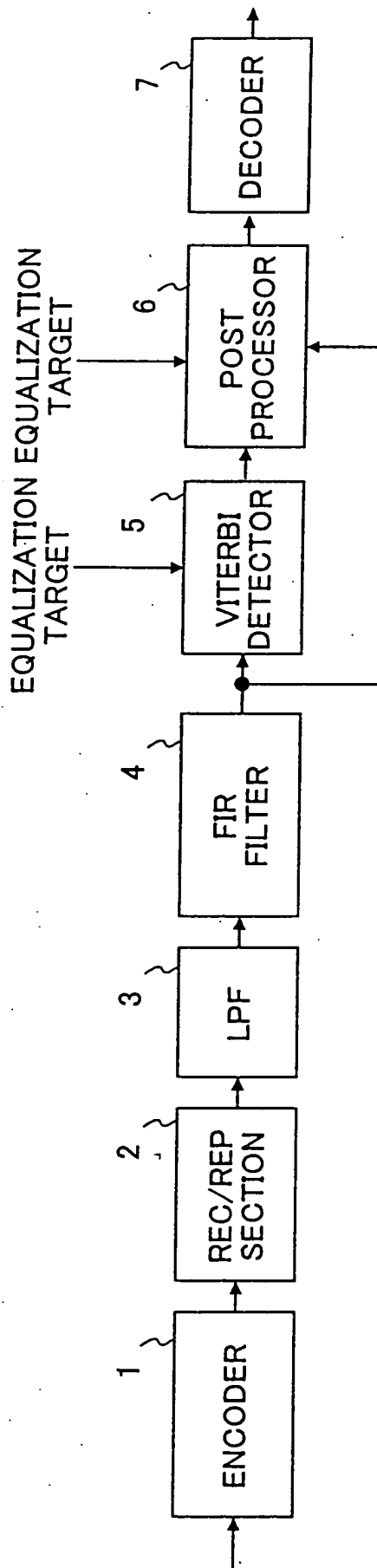
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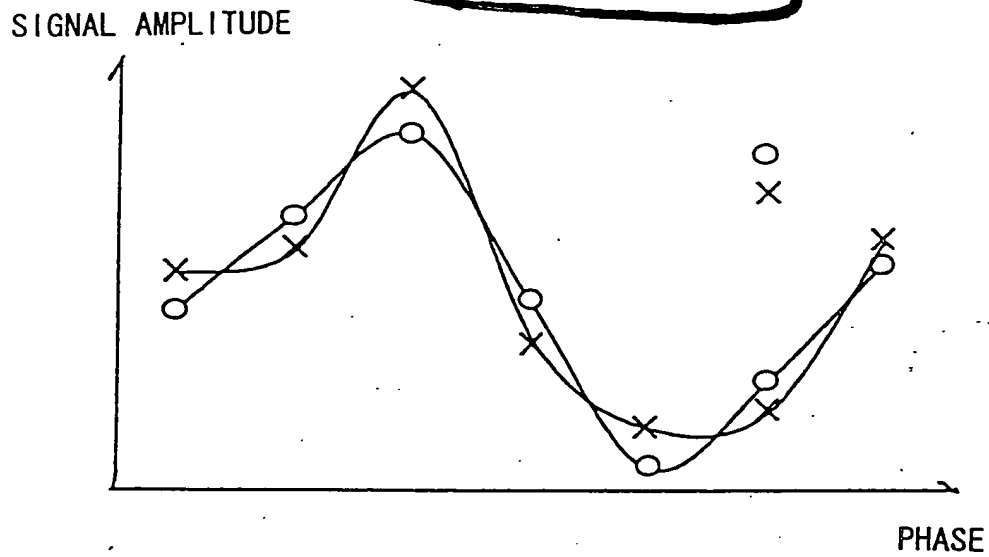P:\DOCS\0941\65729\629313.DOC

8

FIG 1

PRIOR ART

EQUALIZATION EQUALIZATION EQUALIZATION
TARGET   TARGET

1 ENCODER

2 REC/REP SECTION

3 LPF

4 FIR FILTER

5 VITERBI DETECTOR

6 POST PROCESSOR

7 DECODER

FIG. 2
PRIOR ART

SIGNAL AMPLITUDE

PHASE